Flashes ON Premature Ejaculation (PE)

BY

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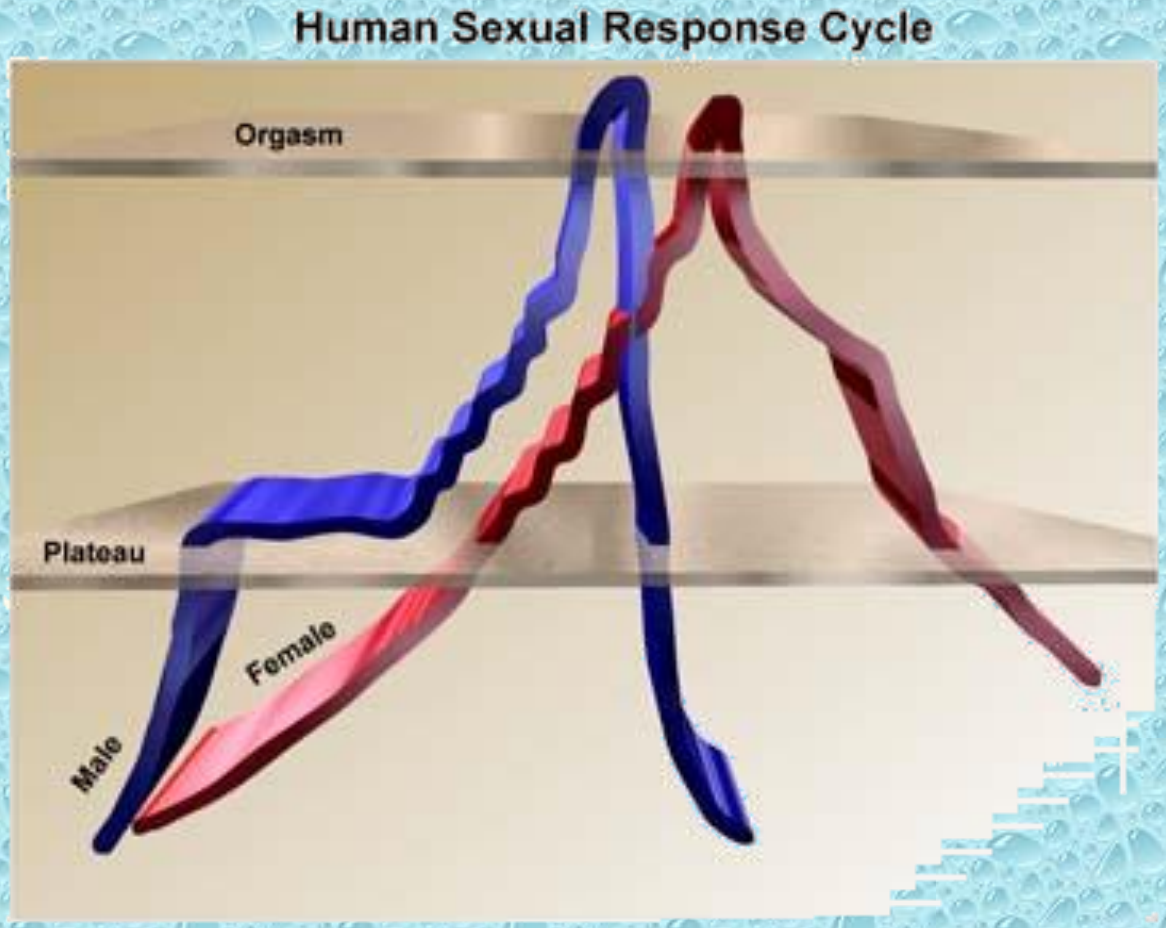
INTRODUCTION

- **Premature ejaculation (PE) is one of the most common male sexual disorders and has been estimated to occur in 25% to 60% of men in the general community depending on the criteria used (Montorsi, 2005).**

- Different lines for treatment of PE were used ; psychoanalysis ,psychotropic drugs , local anesthetics , behavioral sex therapy and lastly SSRIs (selective serotonin reuptake inhibitors) **(McMahon et al., 2004)**.

PHYSIOLOGY OF EJACULATION



Orgasm and ejaculation constitute the final phase of the sexual response cycle .

Physiology of Ejaculation

- There are 3 mechanisms:

Emission

Ejection

Orgasm

Emission

- Sympathetic SC reflex (T10 – L2)
- Initiated by genital or cerebral erotic stimuli.
  - **Leads to**:
  - Contraction of SV & prostate →
  - deposition of semen in posterior urethra →
  - post. U. distension → Emission sensation.

Ejection

- Mainly Sympathetic SC reflex S2 - S4

Lead to:

1- Bladder neck closure (Internal sphincter)

2- Rhythmic cont. of : Bulbocavernous
Ischiocavernous
pelvic floor muscles

3- Relaxation of external sphincter to give the way to the expulseded semen.

Orgasm

- Sensory Experience result of cerebral processing of pudendal nerve sensory stimuli from:

  1- SM. contraction of accessory sex organs.

  2- Build up and release of pressure in post. urethra.

  3- Contraction of the urethral bulb.

Ejaculatory Reflex

- **Krause finger corpuscles → S4 (SC) →**

Thalamus, amygdala, stria terminalis →

MPOA & PVN (DA) →

n PGi (5HT) →

S C → S2,3,4 →

Ischiocavernous, Bulbocavernous and pelvic floor muscles →

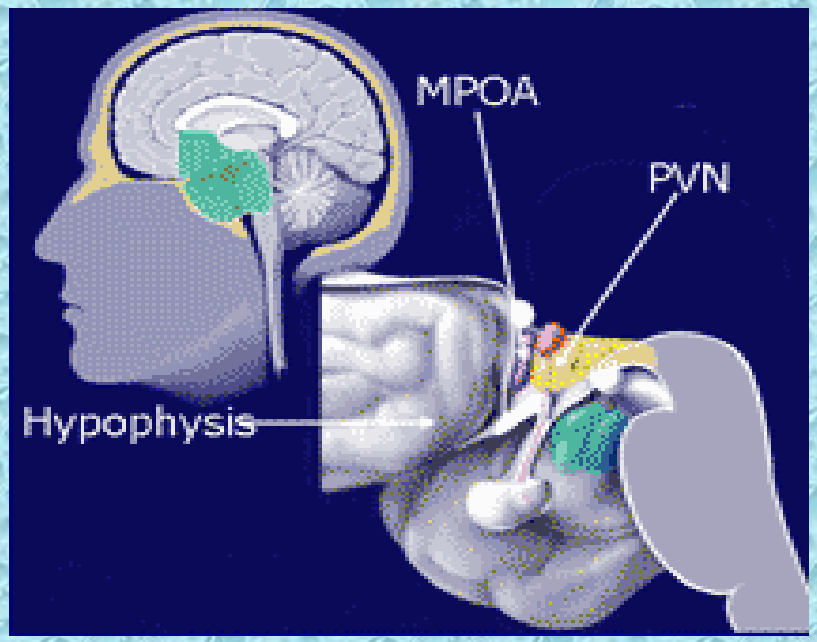
Ejaculation

Control areas of ejaculation

There is no discrete center for ejaculation

- Medial preoptic area (MPOA).
- Nucleus paragigantocellularis (n PGI)
- Stria terminalis.

- Amygdala.
- Thalamus.



Neurochemical Control Of Ejaculation

Primarily:

- Serotonergic neurons Vs Dopamenergic neurons .
- (DOPAMIN /SEROTONIN BALANCE THEORY)
- Waldinger(2002)

Secondary:

- Cholinergic n.
- Adrenergic n.
- GABAergic n.

- ***1-Dopamine***
- MPOA release dopamine ⟶ erection.
- ↑↑ Dopamine ⟶ trigger ejaculation

2-Serotonin

- It is the primary neurotransmitter regulating ejaculation.
- ↑ Serotonin ⟶ Inhibit ejaculation.
- ↓ Serotonin ⟶ Rapid ejaculation.

There is no an agreement on specific definition ?

- DSM IV defined PE :
- “ Persistent or recurrent ejaculation with minimal sexual stimulation before , upon , or shortly after penetration & before the person wishes it “ which is associated with marked distress or interpersonal difficulty.

:Other definitions should be considered

- Number of thrusts < 15 ***Fanciullacci et al.,(1988)***
- IVELT < 2 minutes

Waldinger&Zwinderman,(1998)

- Partner satisfaction < 50 %

Master & Johnson, (1966)

- Voluntary control (loss of control).

Kaplan et al., (1974)

Aetiology of PE

- **Biological factors:**
- 1- Central 5-HT receptors sensitivity.
- 2- Penile hypersensitivity.
- 3- Ejaculatory reflex hyper excitability.
- 4- Ch. Prostatitis & LUTS. *Liang et al., (2004)*
- 5- Erectile dysfunction.
- 6- Drugs and drug withdrawal.

- **Psychogenic theories:**

1- Early sexual experience.

2- Bad wife - husband interrelationship.

3- Situational (as in car).

4- Infrequent intercourse.

5- Super excited sexual technique.

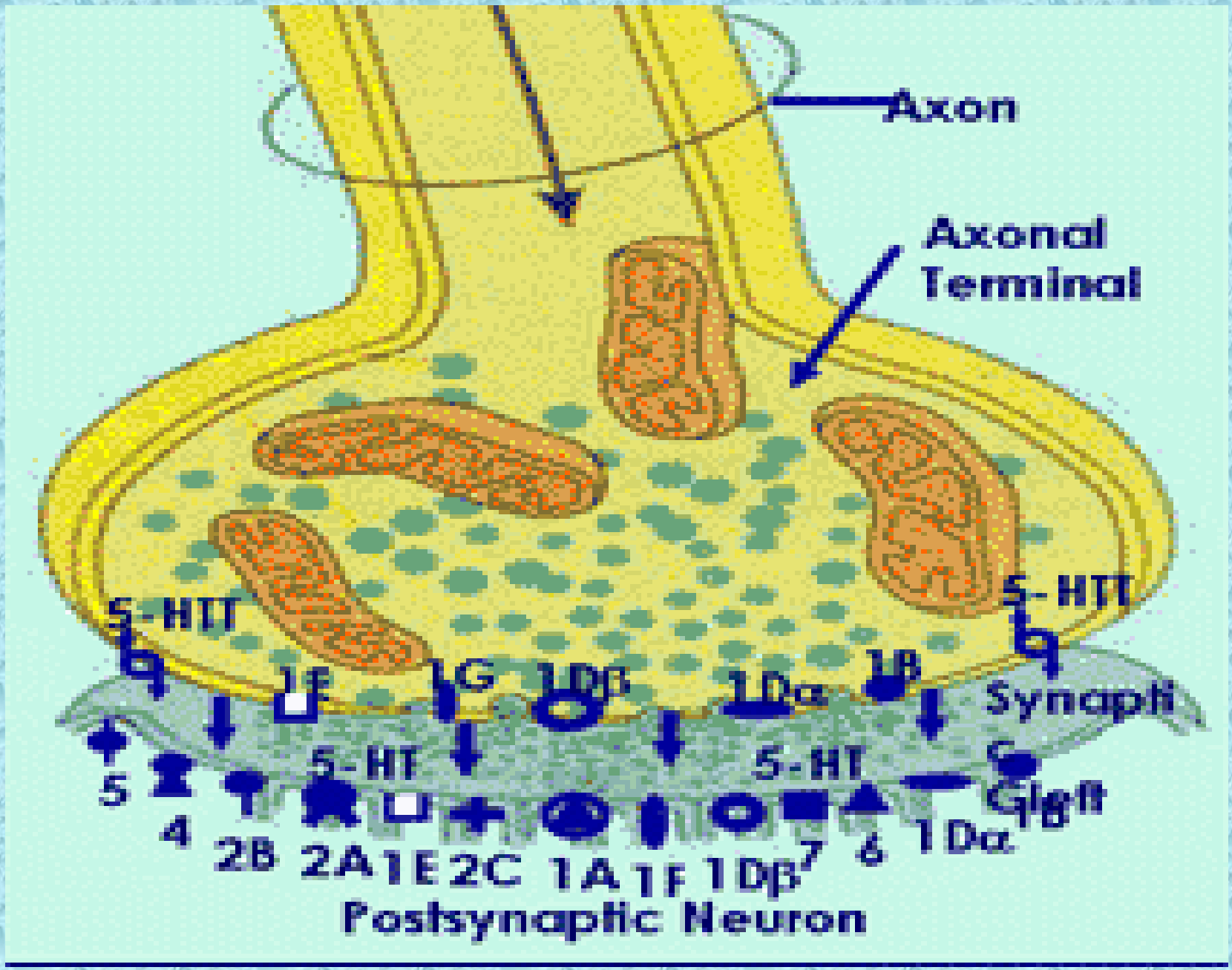
PE types

- 1- **Primary: (lifelong)**
- Who start from the puberty and not changed with time or different partners.
- IVELT < 1 minute in > 90 % of his sexual act. Waldinger(2002).

- **Lifelong PE** is genetically predisposed and is related to
  - Decrease central serotonin.
  - Hyposensitivity of 5-HT2C.
  - Hypersensitivity of 5-HT1A

(New theory of PE)

(Waldinger et al., 2000& 2002)


Axon
Axonal Terminal
5-HTT
5-HTT
1F
1G
1Dβ
1Dα
1B
Synapti
5-HT
5-HT
5
4
2B
2A
1E
2C
1A
1F
1Dβ
7
6
1Dα
Glaft
Postsynaptic Neuron

2- Secondary PE:

- It is acquired condition according:
- - Psychogenic stressors.
- - Situational (as in car).
- Associated dysfunction
  - ED
  - Prostatitis, urethritis and LUTS *(Liang et al., 2004).*
  - Medications.

IVELT Threshold Hypothesis

- There are 2 proposed thershold setpoints :
- 1- Low setpoint.
- 2- High setpoint.

(Waldinger et al., 2002)

Treatment of PE

Psychosexual therapy

Behavioral therapy

Counseling

Medical therapy

Local

Systemic

Local anesthetic

Multiple condoms

SSRI s.

SILDENAFIL C.

Surgical therapy

Selective dorsal nerve neurotomy.

Psychosexual Therapy

- **1-Counseling:**
- Don't neglect the PE problem ⟶ 2ry ED

- Mental exercise to distract his attention.
- Young individuals with short refractory period ⟶ subsequent controlled intercourse.
- Men with PE learn to help their wife to reach orgasm in other ways (clitoral manipulation).

2- Behavioral therapy:

- Stop – start technique *(Semans, 1956).*
- Squeeze technique *(Master and Johnson, 1970).*

Local Treatment

1- Local Anesthetic creams or sprays 1 hour before the act.

2- Wearing multiple condoms (to reduce skin friction)

Systemic Treatment

A- SSRIs:

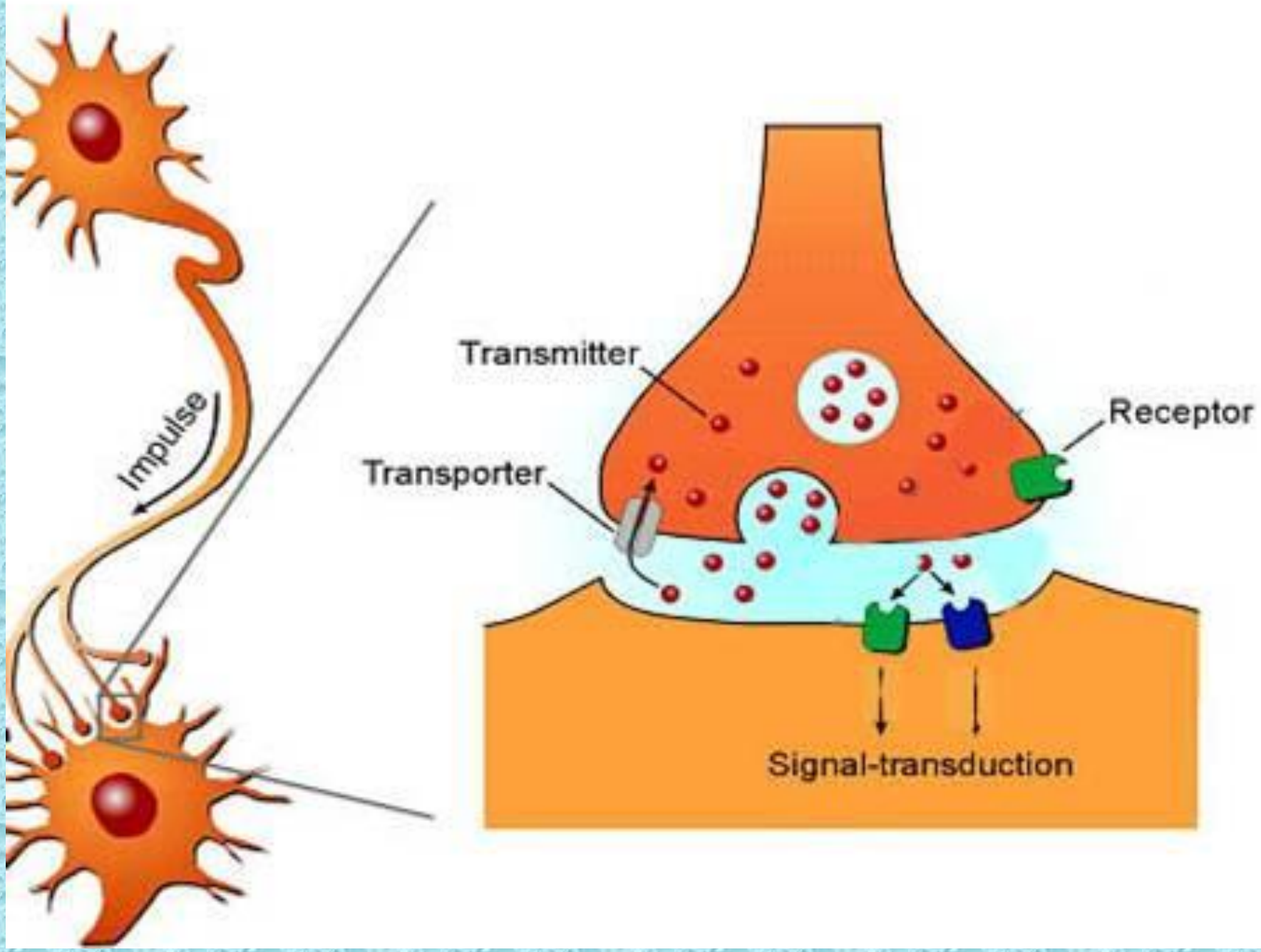
B- Sildenafil citrate

Sildenafil C.

- **How Sildinafil delay Ejaculation?**
- ↑ Centrally NO& ↓ sympathetic tone.
- Smooth muscle relaxation of vas &seminal vesicles opposing the sympathetic effect.
- Decrease penile threshold arousal so more time is needed to be stimulates ED
- Decrease refractory period for erection giving the chance to subsequent intercourse within the refractory period of the orgasm.
- It corrects PE associated with ED

SSRIs

- Most of them are effective treatment for PE
- So it is better to choose the safest and the most selective one.
- **They act**
  - **Centrally** increase serotonin
  - **Peripherally** reduce the pressure response of seminal vesicle to sympathetic stimulation.
- (Hsein et al. (1998)


Impulse
Transmitter
Receptor
Transporter
Signal-transduction

Oral daily dose:

- Escitalopram : 5mg
- Sertaline : 50-100mg
- Fluoxetine : 20-60mg
- Paroxetine : 20-40mg
- Clomipramine : 25-50mg

On demand dose:

The same dose 3-12hrs before intercourse but less effective as oral daily dose.

Escitalopram

- The most selective 5-HT receptor inhibitor available for clinical use.
- No blockage of dopamine receptors & no down regulation of adrenergic receptor as in sertraline
- Metabolized in P450 (2C19, 2D6 & 3A4)
- No drug - drug interaction
- Dose 5mg after breakfast.